knowledge of medical literature, the new treatments being advocated and, through the public health reports, should know of the prevailing diseases and when these diseases are epidemic in character. Such a librarian should be able to lay hand upon the latest information on the subject and so anticipate the needs of the physician.

Very few of the general public realize that scientific medicine is keeping pace with the other branches of science. Medical advances are often unnoticed for some time, except by members of the medical profession, due to the lack of publicity, as was the case with the airplane, the radio and various other discoveries now in the public eye.

FACTORS WHICH MAKE FOR THE SUCCESS OF A MEDICAL LIBRARY

The success of a medical library is dependent upon the following factors: proper housing, trained personnel, and sufficient funds to keep the collection up to date. It is not the quantity but the quality that counts in medical literature, and I know of no greater opportunity for the philanthropist in the alleviation of human suffering than to provide proper endowment of a local medical library. This would help the physician to give to both the rich and the poor the very best treatment known to medical science.

IN CONCLUSION

To me, a medical library is filled with interest in that it contains the records of the marvelous achievements in the field of medicine. In the literature housed in each medical library are the records of the unselfish devotion of thousands of physicians and nurses in their efforts to relieve suffering.

It is regrettable that, to the memory of great military leaders like Napoleon and others, the world erects monuments, while many of the greatest benefactors of the human race go unnoticed and unheralded. Their names, however, live on in the pages of medical history enshrined in the medical libraries throughout the world.

1410 Medico-Dental Building.

Substitute for Cocain and Procain in Rhinolaryngology. Gatewood states that the 2.5 per cent solution of nupercain has proved to be a most satisfactory agent for causing topical anesthesia prior to such operations as submucous resection, ethmoidectomy, intranasal antrotomy and turbinectomy. The 2.5 per cent solution of nupercain produces prompt, effective and prolonged anesthesia without signs of local irritation or of systemic intoxication. When used in 1:1,000 solution with epinephrin, nupercain has been found fully as effective as a 1 per cent solution of procain hydrochlorid for infiltration anesthesia prior to tonsillectomy. Nupercain has the advantage over procain for infiltration in that the duration of the anesthesia produced by the former far exceeds that following injection of the latter; as a consequence, the tendency for postoperative bleeding is less when nupercain is used as the anesthetic agent. In the routine operative work in the rhinolaryngologic clinic at the Polyclinic Hospital, nupercain has been employed in 87 submucous resections, 36 ethmoidectomies, 29 intranasal antrotomies, 41 turbinectomies, and 212 tonsillectomies. The author describes his method of procedure in each of these operations.—*Laryngoscope.*

CLINICAL NOTES AND CASE REPORTS

RAT-BITE FEVER

REPORT OF CASE

By GEORGE E. KOERBER, M. D.
San Leandro

RAT-BITE fever is a disease occasionally seen in the United States, some fourscore cases having been reported in this country up to 1931. Reports of several recent cases have also appeared in the journals.

It is not the purpose of this communication to describe the disease academically, but simply to present a case history which illustrates its typical course.

REPORT OF CASE

T. T., a boy of twelve, was admitted to the Alameda County Hospital on March 27, 1934, with the complaint of recurring bouts of fever. Two months previously he had been bitten by a rat in one of the large public markets in Oakland. He had thought the rat was a guinea-pig and tried to catch it. The boy said the rat had acted sick, and this is probably so, or he could never have gotten so close to it. After being bitten, he went to a doctor, who applied iodin and a small dressing.

The wound healed rapidly, and for three weeks nothing further was thought of it. Then the site of the injury, the right palm near the base of the thumb, became inflamed and swollen. He again went to a doctor, who lanced the swelling but obtained no pus. At this time the doctor discovered axillary adenopathy. The hand healed rapidly after incision.

Two weeks after this, the attacks of fever began. They occurred regularly on Monday and Tuesday of each week, lasting about forty-eight hours, and at regular seven-day intervals. The boy entered the hospital on a Tuesday, toward the close of his third recurrence.

Each attack was characterized by extreme weakness, backache, an ache in the right arm, moderate chills, a high fever, and very severe night sweats. Between the bouts the boy felt fairly well.

Examination at entry revealed: (1) A temperature of 105.8 degrees Fahrenheit. (2) Tenderness in the left upper quadrant, with a barely palpable spleen. (3) Generalized lymphadenopathy, enlarged glands being felt in the neck, both axillae, and the inguinal regions, the glands in the right axilla being largest and most tender. (4) No skin lesions were found, and they were denied in the history.

A number of blood smears were taken at entry, while the fever was still at its height, and examined after staining with both Wright's and Giemsa's. These were negative. A lymph-node was aspirated the following day and the fluid examined, but no spirochetes found, either in darkfield or stained specimens.

The white blood count was 14,900, with 82 per cent neutrophils. Red count, 3,660,000; hemoglobin, 10.8 grams, or 64 per cent. Urinalysis was negative. Further laboratory work included: (1) Agglutination against organisms of undulant fever and tularemia, both negative. (2) Blood culture, which was negative.

After being in the hospital five days, the fourth bout of fever began. During this recurrence, one of the large axillary glands was removed surgically. Material from this gland was inoculated into two rats. Microscopic section of the gland itself showed only hyperplastic lymphatic structure. Blood obtained from the patient by venipuncture was inoculated into a guinea-pig after citration.

Sixteen days later one rat and the guinea-pig were autopsied, and in the blood of each were found spirochetes, fairly numerous in the rat blood, but scarce in that of the guinea-pig. These spirochetes agreed very closely in morphology with the descriptions of Leptospira morsis-muri given in various texts. The other rat was allowed to live six weeks, and no spirochetes were found in its blood at autopsy.

Three intravenous injections of neoarsphenamin, three-tenths gram each, were given at four-day intervals. We started this before the laboratory had confirmed our diagnosis, because we hesitated to subject the patient to another such attack of fever. Fortunately, however, confirmation was soon forthcoming.

The patient had no more attacks of fever, and was soon discharged as recovered. In a recent communication from his mother, I am told that he had one or two attacks of malaise and light fever about a month after leaving the hospital, and also had a red rash in the right axilla which disappeared spontaneously. Whether these bore any relationship to his previous illness I cannot state. Otherwise he has been well for six months.

SUMMARY

1. A proved case of rat-bite fever occurring in Oakland is presented.

2. Inoculation of laboratory animals is the only method of laboratory diagnosis offering any certainty.

Fairmont Hospital.

AN UNUSUAL BRAIN INJURY

By ALFRED H. TICKELL, M. D.
Nevada City

HEREWITH find a report on an unusual case of brain injury, with recovery.

REPORT OF CASE

On July 25, 1934, at 1 p. m., Mrs. A., age about 30, attempted suicide at her home in Truckee, California, by shooting herself through the head with a 32-caliber automatic revolver.

Mrs. A. was received at the Nevada County Hospital, Nevada City, California, at 6:15 p. m. the same day, where examination showed powder-burned point of entrance through the right temporal region, and the point of exit on the left side at a slightly higher level; the bullet passing, without doubt, anterior to the motor zone.

The woman was semi-conscious, suffering from hemorrhage and shock. There was considerable bleeding, and the eyes greatly swollen and ecchymosed due to laceration of cerebral vessels. Brain substance was coming from both bullet holes.

Tetanus antitoxin was given, and the wounds carefully cleansed, and small, loose pieces of bone removed at point of exit.

A few sutures were temporarily placed, with the idea of partly checking the hemorrhage, with aseptic packs and bandages. The sutures were removed twelve hours later, and the wound dressed every eight hours until cessation of bleeding.

During this period there was a constant loss of brain substance, totaling about half an ounce by volume. On July 28, Dr. Howard C. Naffziger of San Francisco was called in consultation, and advised continuance of treatment and close observation of any following symptoms before anything more radical was undertaken; finding no evidence of intracranial pressure. The patient, according to his report, was still somewhat stuporous, but the response suggested a mild degree of aphasia. He felt that the ecchymosis about the orbits indicated a probable fracture of the orbital plates. The wounds were clean, and it was felt that the patient had automatically freed herself of most of the devitalized brain tissue by extrusion of it through the wounds. There was no tendency, as a matter of fact, for the formation of a brain fungus at either wound.

For the first ten days the patient's temperature ranged from normal, in the morning, to 101 degrees Fahrenheit in the evening; and she was slightly irrational for the first four days.

Excretions were involuntary for the first ten days.

Medication was confined to an occasional hypodermic of morphin.

After this date the patient's symptoms were negative, except some headache and restlessness, since cleared up. Her reflexes and special senses were normal, and have remained so, with the openings in the skull closed. The points of penetration are shown in the accompanying photographs.

The patient returned to her home on August 25.

Office of County Physician.

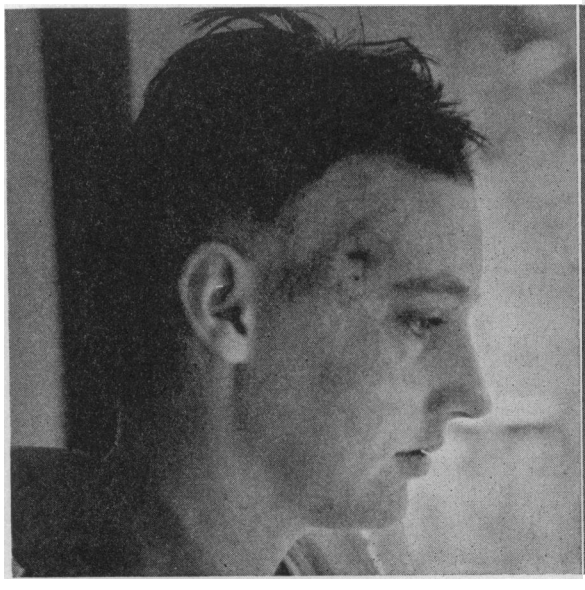

Fig. 1.—Showing entrance site of bullet.

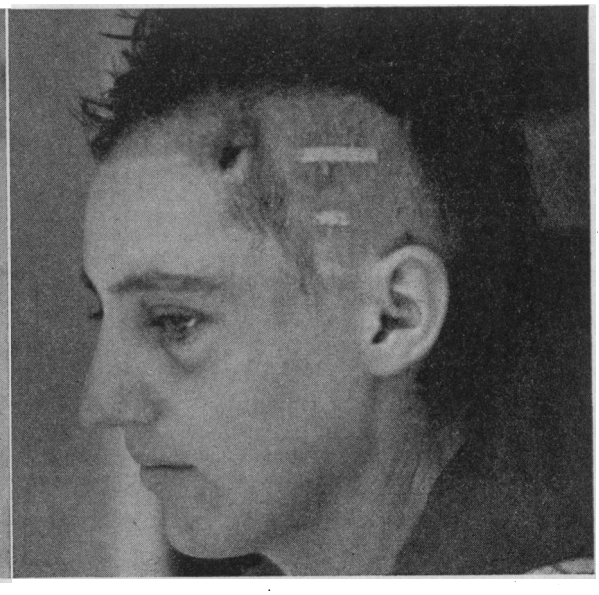

Fig. 2.—Showing exit site of bullet.